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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/526,998	Applicant(s) FERNANDEZ, FRANCESC XAVIER HERNANDO	
	Examiner Vinod D. Patel	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 October 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Response to non-final action is acknowledged.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the control means as claimed in claim 30, on/off switch to control an activation time of said supply current of the electrical heater as claimed in claim 31, on/off switch associated with a thermostat as claimed in claim 32, on/off switch at vehicle user's disposal as claimed in claim 33, on/off switch common for at least another heating device of the vehicle as claimed in claim 34, control means comprises a man-machine interface to provide different parameters coming one or more detectors associated with the image acquisition unit and/or with other from an input device at a vehicle's user disposal, to a central processor of the vehicle which supports a program adapted control said supply current of the electrical heater through time as a function of the result of an analysis and processing of said parameters as claimed in claim 35, an electrical resistance applied in an enclosing way on a zone of the casing adjacent to the transparent element as claimed in claim 50, electrical resistance applied on an external surface of said zone of the casing adjacent to the transparent element as claimed in claim 51, electrical resistance applied on an internal surface of said zone of the casing adjacent to the transparent element as claimed in claim 52, electrical resistance material as claimed in claims 53-58, one element of a heat conductive material as claimed in claim 59, a

Peltier cell as claimed in claim 61, an air expulsion nozzle located near the transparent element, and connected to a heating or air conditioning system of vehicle's compartment as claimed in claim 62. The drawings must show every feature of the invention specified in the claims 28-62 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Above described/claimed structural detail is very essential for a proper understanding of the disclosed invention. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

((e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 28-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujikawa et al. (US6959994).

With respect to claim 28, Fujikawa et al. discloses an image acquisition unit (5) with a heating device for monitoring an exterior of a vehicle, comprising: a casing (2) comprising a protected interior, said casing defining a window closed by a transparent element (7) and supporting means defined by part of the casing for supporting an optical system facing said window; image detection means located in said casing, facing said optical system and associated with connection means with the exterior, for supplying electrical signal and/or for bidirectional signal interchange; and heating means (15) for providing thermal energy to said transparent element, or to an adjacent zone thereto as shown in the Figures 1-7.

With respect to claim 29, Fujikawa et al. the image acquisition unit, wherein said heating means comprises at least one electrical heater supplied with direct current from said connection means as shown in the Figure 4.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 28-31, 33, 37 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Schofield et al. (US6498620).

With respect to claim 28, Schofield et al. discloses an image acquisition unit (14, 16) with a heating device (168) for monitoring an exterior of a vehicle, comprising: a casing comprising a protected interior, a window closed by a transparent element and supporting means for supporting an optical system facing said window; image detection means located in said casing, facing said optical system and associated with connection means with the exterior, for supplying electrical signal and/or for bidirectional signal interchange; and heating means for providing thermal energy to said transparent element, or to an adjacent zone thereto as shown in the Figure 20.

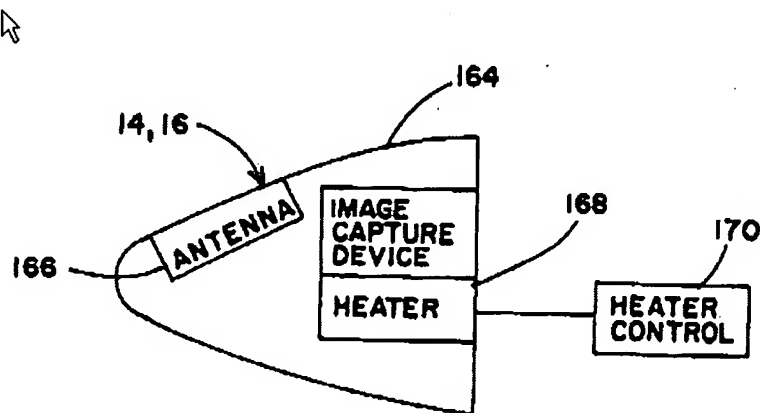


FIG. 20

With respect to claim 29, Schofield et al. discloses the image acquisition unit, wherein said heating means comprises at least one electrical heater (168) supplied with direct current from said connection means (Figure 20, column 20, lines 13-40).

With respect to claim 30, Schofield et al. discloses the image acquisition unit, further comprising control means (170) for controlling the operation of said electrical heater as shown in the Figure 20.

With respect to claim 31, Schofield et al. discloses the image acquisition unit, wherein said control means comprises an on/off switch to control an activation time of said supply current of the electrical heater (column 20, lines 13-40).

With respect to claim 33, Schofield et al. discloses the image acquisition unit, wherein said on/off switch is at a vehicle user's disposal (column 20, lines 13-40).

With respect to claim 37, Schofield et al. discloses the image acquisition unit, wherein said electrical heater comprises at least one electrical resistance directly applied on said transparent element as shown in the Figure 20.

With respect to claim 59, Schofield et al. discloses heating means (168) comprises at least one element of a heat conductive material to transfer heat from a zone of the casing, where electronic components of said image detection means are located, to an adjacent zone to the transparent element, or close to it.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield et al. (US6498620) in view of Dokken (US5173585).

Schofield et al discloses control means but silent regarding thermostat.

Dokken discloses a camera-heating jacket comprising a thermostat (44) to control the temperature of a heating element.

It would have been obvious to one of ordinary skill in the art to provide a thermostat as taught by Dokken in order to control the temperature of the heating element for the device of Schofield et al.

9. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield et al. (US6498620) in view of Dokken (US5173585) and further in view of Flaishans et al. (US5699857).

Schofield in view of Dokken does not disclose on/off switch common for at least another heating device of the vehicle, selected from a group consisting of: a heating system for a rear window, and a heating system for an external rear view mirror.

Flaishans et al. discloses on/off switch (90) is common for a heating system for a rear window (44), and a heating system for an external rear view mirror (46) to reduce system cost by reducing number of wire inter connections and components.

It would have been obvious to one of ordinary skill in the art at the time of invention to provide a common on/off switch for other heating devices selected from a group consisting of: a heating system for a rear window and a heating system for an

external rear view mirror as taught by Flaishans et al. in order to control heating devices and reduce system cost by reducing number of wire inter connections and components for the device of Schofield et al.

10. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield et al. (US6498620) in view of Flaishans et al. (US5699857).

Schofield et al. does not disclose control means comprises a man-machine interface to provide different parameters coming from one or more detectors associated with the image acquisition unit and/or with other parts of the vehicle, and/or from an input device at a vehicle's user disposal, to a central processor of the vehicle, which supports a program adapted to control said supply current of the electrical heater through time as a function of the result of an analysis and a processing of said parameters.

Flaishans et al. discloses a control means comprising a climate control system (10), climate control head (12) and a multifunctional control module (14) comprising microprocessor as shown in the Figures 1-3.

It would have been obvious to one of ordinary skill in the art at the time of invention to provide a control means as taught by Flaishans et al. in order to control heating devices and reduce system cost by reducing number of wire inter connections and components for the device of Schofield et al.

11. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield et al. (US6498620) in view of Flaishans et al. (US5699857) and further in view of Suman (US5525977).

Schofield et al. does not disclose parameters are selected from a group consisting of an interior temperature of the image acquisition unit casing (1), and the exterior environment temperature.

Suman discloses a prompting system for vehicle personalization (column 4, lines 14-55) "In general, controller 30 controls a variety of different vehicle accessories. As shown in FIG. 4, controller 30 is coupled to the vehicle multiplex bus to control the vehicle door locks, the horn, the trunk lock, headlights, the outside mirror(s), the radio volume control, the vehicle climate control (heating and air conditioning), the driver's seat position, seat heaters, a transceiver, power windows, a chime, interior lights, a power moon roof, and the like. The controller 30 outputs control signals on the vehicle multiplex bus to contro these options responsive to control signals from a telephone, an ambient light sensor, the vehicle ignition, a noise level detector, an interior temperature sensor, a seat position sensor, a signals associated with a trainable transceiver, an exterior temperature sensor, the vehicle speedometer, and the like. Those skilled in the art will recognize that these input and output control signals are communicated over the vehicle multiplex bus in commercially available vehicles. Having described the overall environment of the preferred embodiment of the personalization system, the operation of the vehicle prompting system will now be described in detail."

It would have been obvious to on of ordinary skill in the art at the time of invention to provide parameters selected from a group consisting of an interior temperature of the image acquisition unit casing and the exterior environment

temperature as taught by Suman in order to personalize a system for vehicle as desired by the user for the device of Schofield et al.

12. Claims 38-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield et al. (US6498620) in view of Jones et al. (US6512203).

Schofield et al. discloses an electrical resistance heater directly applied to a transparent panel as shown in Figure 20 but silent regarding conductive ink or paste applied on the end portion and does not disclose electrical resistance has form of an open ring and layer of conductive in extended along section, and protective mask material over resistive ink and/or conductive ink.

Jones et al. discloses a resistive ink (110) forms a heating element (R303) and conductive ink applied at end portions and exposed surfaces of the mounting pads, the resistive strip (110) and conductive (106, 108) coated with a dielectric that provide environmental and electrical protection of the heater circuit.

It would have been obvious to one of ordinary skill in the art at the time of invention to provide conductive ink applied on the end portion of resistive ink of an electrical resistance, and dielectric coating as taught by Jones et al. order to connect end portions as desired by the user and protect heater circuit from environmental and electrical protection for the device of Schofield et al.

With respect to an electrical resistance having an open ring is considered as a change in shape. A change in shape of a prior art device is a design consideration within the skill of the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

It would have been obvious to one having ordinary skill in the art at the time the invention was provide an electrical resistance having an open ring and extend layer of conductive ink extended along sections, since it has been held to be within the general skill or a worker in the art to provide a desired shape on the basis of its suitability for the intended use as a matter of obvious design choice.

13. Claims 50–52 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield et al. (US6498620).

With respect to claims 50-52, Schofield et al. discloses an image acquisition unit wherein heating means comprises at least one electrical heater supplied with direct current from said connection means.

Schofield et al. does not disclose electrical resistance applied to an enclosing way on a zone of the casing adjacent to transparent element or external surface of the zone of the casing or internal surface of the zone of the casing.

With respect to electrical resistance applied to an enclosing way on a zone of the casing adjacent to transparent element or external surface of the zone of the casing or internal surface of the zone of the casing, it would have been obvious to one having ordinary skill in the art at the time the invention was provide an electrical resistance applied to an enclosing way on a zone of the casing adjacent to transparent element or external surface of the zone of the casing or internal surface of the zone of the casing, since it has been held to be within the general skill or a worker in the art to provide electrical resistance applied to an enclosing way on a zone of the casing adjacent to transparent element or external surface of the zone of the casing or internal surface of

the zone of the casing on the basis of its suitability for the intended use as a matter of obvious design choice.

With respect to claim 60, Schofield et al. is silent regarding the heat conductive material is the material the casing is made of.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the heat conductive material is the material the casing is made of, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

14. Claims 53-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield et al. (US6498620) in view of Jones et al. (US6512203) further in view of Smucker (US5198639).

Schofield et al. discloses the resistance of which remains substantially constant with the temperature variations of itself but does not disclose electrical resistance comprises of a material, the resistance of which increases with the increase of its temperature.

Smucker discloses a self-regulating mirror comprising a heating element having PTC material in which the resistance increases with the increase of its temperature.

It would have been obvious to one of ordinary skill in the art at the time of invention to provide electrical resistance comprises of a material, the resistance of which increases with the increase of its temperature as taught by Smucker in order to self-regulate heating for the device of Schofield et al.

15. Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield et al. (US6498620) in view of Hirmatsu (US6878907).

With respect to claim 61, Schofield does not disclose heating means comprises a Peltier cell to transfer heat from a zone of the casing, where electronic components of said image detection devices are located to an adjacent zone to the transparent element or close to it.

Hirmatsu discloses a ceramic substrate and process for producing the same comprising a resistance heating element (12) and a peltier device (Fig. 7) in order to control temperature (column 11 lines 27-33).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a peltier cell as taught by Hirmatsu in order to control temperature for the device of Schofield.

16. Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield et al. (US6498620) in view of Mazzilli (US6333759) or Uskolovsky et al. (US6738088).

Schofield et al. does not disclose heating means comprises an air expulsion nozzle located near the transparent element, and connected to a heating or air conditioning system of a vehicle's compartment, in order to create a warm air barrier in front of the external face of the transparent element.

Mazzilli discloses a camera (5) mounted to a windshield of an automobile. It is inherent to have defroster and built in nozzles to blow air to the windshield in order to create a warm air barrier in front of the external face of the transparent element. The air

coming from nozzles of the windshield will blow by the transparent element in order to create warm air barrier in front of the external face of the transparent element.

Uskolovsky et al. discloses a camera mounted to a windshield of an automobile. It is inherent to have defroster and built in nozzles to blow air to the windshield in order to create a warm air barrier in front of the external face of the transparent element. The air coming from nozzles of the windshield will blow by the transparent element in order to create warm air barrier in front of the external face of the transparent element.

It would have been obvious to one having ordinary skill in the art at the time the invention was provide an air expulsion nozzle located near the transparent element, and connected to a heating or air conditioning system of a vehicle's compartment as taught by Mazzilli or Uskolovsky et al. in order to create a warm air barrier in front of the external face of the transparent element for the device of Schofield et al.

Response to Arguments

17. Applicant's arguments filed 10/5/07 have been fully considered but they are not persuasive. Fujikawa discloses a casing (2) comprising a protected interior, said casing defining a window closed by a transparent element (7) and supporting means defined by part of said casing for supporting an optical system inside said casing for supporting an optical system inside said casing and facing said window, image detection means located in said casing, facing said optical system and associated with connection means with the exterior for supplying electrical signals and for bidirectional signal interchange as shown in the Figures 1-7.

FIG. 1

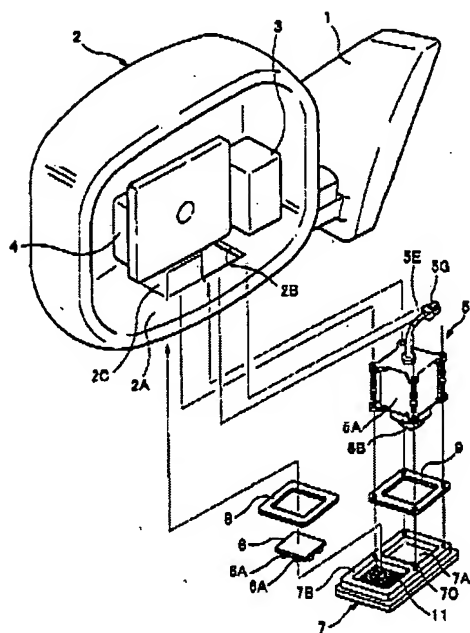
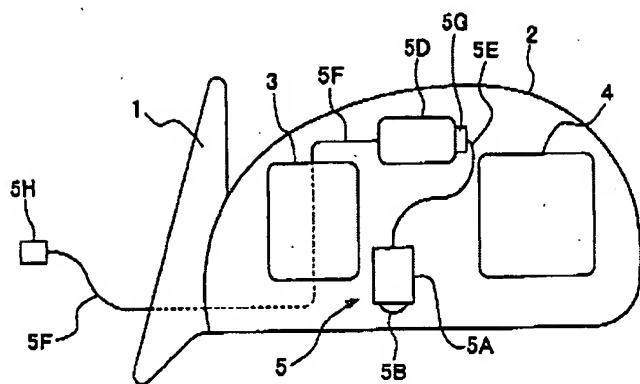


FIG.7



In response to the applicant argument that Schofield does not disclose heater 168 provides thermal energy to transparent element. The examiner respectfully disagrees with that statement. Heater 168 provides thermal energy to transparent element, see, Schofield discloses, column 18, lines 41-42, "A heater may be applied to each image capture device in order to remove dew and frost that may collect on the optics of the device.", column 20, lines 22-40 and column and column 20, lines 22-36, "A heater 168 may be associated with the image capture device in order to stabilize the temperature of the device in low ambient temperature conditions. A similar heater may be supplied in display 20 in order to improve its performance in low ambient temperature conditions. A heater control 170 is provided in order to control the energization of heater 168 and, if utilized, the heater in the display. Heater control 170, preferably, energizes heater 168 prior to the vehicle being started. This allows the temperature of the image capture device to be elevated to a more desirable temperature prior to the driver operating the vehicle. This may be accomplished by heater control 170 being a proximity detector which detects a device carried by the driver as the driver approaches the vehicle."

As shown in the Figures 1-20, Schofield shows casing comprising protected interior and window closed by transparent panel and supported by casing for supporting an optical system inside said casing, facing said optical system and connection means with the exterior, for supplying electrical signals and for bidirectional signal interchange.

With respect to claim 37, Schofield discloses, column 18, lines 41-42, "A heater may be applied to each image capture device in order to remove dew and frost that may collect on the optics of the device.", column 20, lines 22-40 and column and column 20, lines 22-36, "A heater 168 may be associated with the image capture device in order to stabilize the temperature of the device in low ambient temperature conditions. A similar heater may be supplied in display 20 in order to improve its performance in low ambient temperature conditions. A heater control 170 is provided in order to control the energization of heater 168 and, if utilized, the heater in the display. Heater control 170, preferably, energizes heater 168 prior to the vehicle being started. This allows the temperature of the image capture device to be elevated to a more desirable temperature prior to the driver operating the vehicle. This may be accomplished by heater control 170 being a proximity detector which detects a device carried by the driver as the driver approaches the vehicle." Based on that, an electrical heater is used to remove dew and frost that may collect on the optics device. During examination, claim limitations are to be given their broadest reasonable reading. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969).

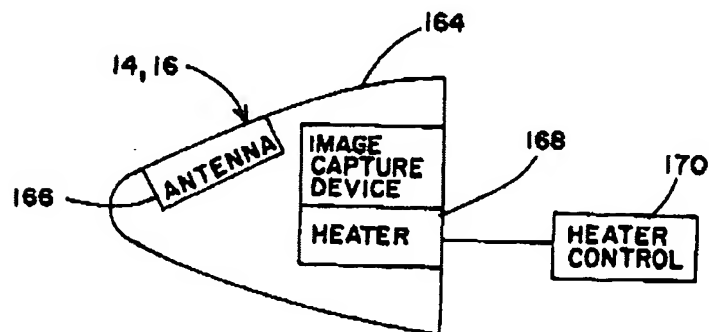
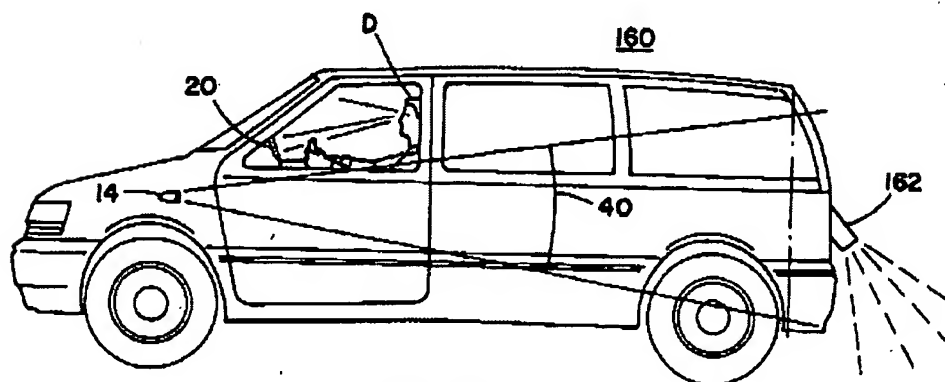
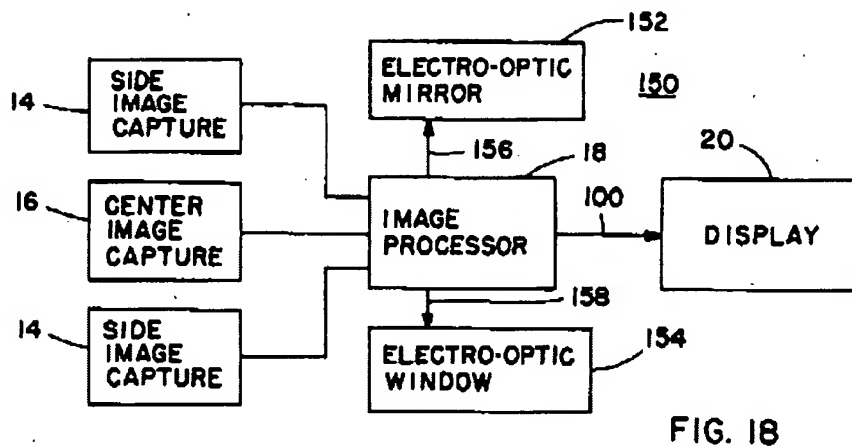
With respect to claims 32-62, cited prior art discloses deficiencies of Schofield. With respect to claim 62, applicant is respectfully requested to read entire rejection instead of piecemeal analysis. It was a typo error with respect to onto the exterior face of the windshield. It should be onto the external face of transparent element.

U.S. Patent

Dec. 24, 2002

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18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod D. Patel whose telephone number is 571-272-4785. The examiner can normally be reached on 7.15 A.M. TO 3.45 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu B. Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Vinod D. Patel
Examiner
Art Unit 3742

VP



TU BA HOANG
SUPERVISORY PATENT EXAMINER